



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

# A DESCRIPTIVE LIST OF THE PLANTS COLLECTED BY DR. F. E. BLAISDELL AT NOME CITY, ALASKA.

ALICE EASTWOOD.

(WITH TEN FIGURES)

THE plants forming the subject of this paper were collected at Nome city during the flowering season of 1900. This place has lately come into prominence on account of the valuable gold diggings located there, and is now visited annually by many people. On this account it seems well to publish a list of the plants found there, in order to give to others an idea of the flora, and also to assist botanists there who have at present no means of identifying the plants that bloom so profusely during the short summer. A mere list of names is of little value except to the worker in the herbarium, but a descriptive list, supplemented by a knowledge of orders and genera, or by some book in which these are given, will lead to the identification of almost all the species.

The Pteridophytes, Gramineae, Cyperaceae, Juncaceae, and Salicaceae have been determined by eminent authorities, and except in the last I have simply given the lists as they were given to me in each instance. It is with gratitude for this and other favors that I here acknowledge my obligations to my botanical friends.

The interesting description of the country which has been written by Dr. Blaisdell gives an excellent idea of the environment. Except in a few instances, where the environment has been especially noted, the plants were all collected in the tundra and within a radius of a few miles of Nome city.

## THE VICINITY OF NOME CITY.<sup>1</sup>

Nome city is situated on the seacoast at the edge of the tundra. The latter extends inland, rising uniformly about two

<sup>1</sup> Written by Dr. F. E. Blaisdell.

hundred feet in four or five miles, where it becomes broken up and forms the rounded slopes of the hills and small mountains, which in the vicinity of Anvil mountain do not reach an altitude of more than 400 to 1000 feet. In this particular region the easterly slopes of this mountain and adjoining hills form the divide between the tributaries of the Nome river, that flow in an easterly direction, and those of the Snake river, that flow south-

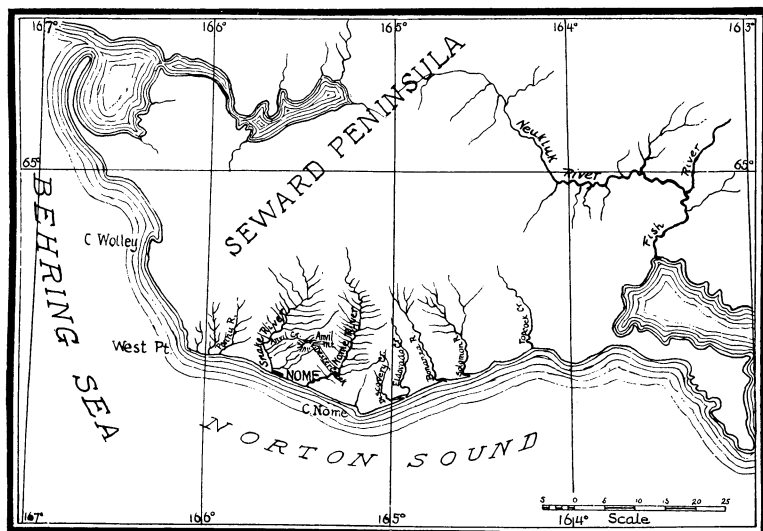


FIG. 1.—MAP, showing region where a botanical collection was made by F. E. Blaisdell, M.D.

westerly. Dexter creek is one of the large creeks of this vicinity that empty into the Nome river, and has its origin in the easterly slopes of Anvil mountain and the neighboring hills, six miles north of Nome city, and courses two and a half miles eastward to the Nome river. The highest peak in this region is King mountain (so called in the neighborhood), situated between Dexter creek on the southeast and Anvil creek on the west; also between Anvil mountain on the south and Nome river on the east.

The tundra is truly a marshy plain from its commencement at the seashore to the highest mountain, although the latter by

its altitude is more quickly drained, and becomes comparatively dry earlier in the season. It is roughened by hummocks of moss and bunch grass varying from a few inches to two feet high, and in circumference from that of a stove-pipe in the marshiest places to the broad, flattened, and rounded knolls of the general surface. In the crevices between the hummocks, which may be narrow and deep or shallow and varying in breadth, little streams of various sizes trickle along, working their way to the larger creeks. Here and there are perennial springs. Most of the water that flows from the tundra comes from the thawing of the subterranean ice, and the small glaciers that remain in the higher valleys after the snow disappears. These endure the entire season unless the summer is unusually warm. As the season advances and the ice and snow gradually disappear, the smaller streamlets dry up, so that in the month of August the land is comparatively dry. More or less rain falls during the summer. Some seasons are very rainy, as the summer of 1899, while that of 1900 was dry. Near the end of the month of July, I found ice six inches beneath the surface of the ground. This formed the floor of a ground squirrel's burrow which I explored.

Everywhere the ground is covered with mosses, lichens, and prostrate plants, the mat varying in thickness from one to several inches. Within the small crevices between the hummocks grow many of the small plants. The willows are the largest shrubs of the region, on the tundra being from two to three feet high, but along the rivers attaining a height of eight or more feet. They are scattered here and there, or form thickets an acre or less in extent. Many species of plants find a home in the shelter of these thickets.

I could make out but two or three life-zones in this region. That over which I collected may be bounded as follows: on the south by the seacoast at Nome city; on the west by Snake river and its tributary, Glacier creek; on the east by Nome river; on the north by Boston and Grouse creeks, tributaries of Glacier creek and Nome river. In the lower zone the several species of plants have a general distribution, an aggregation of individuals

of a species occurring here and there where the conditions are more favorable to their growth. In the upper zone, above four hundred feet altitude as an approximate lower limit, a number of species occur that were not to be found on the lower levels. The general conditions are about the same in both zones. Altitude and dryness from the earlier drying up of the excess of water, and rocky ledges attracting the sun's rays, are the main differences in environment observed in the upper zone.

When I landed, June 18, the anemones and primroses were blooming, and many willows were unfolding their catkins. All species had almost finished blooming by the end of August, when the first frosts terminated plant activity, and by the middle of September everything was frozen up.

The following list includes all the species I saw except one species of *Allium*, one of *Veratrum*, one of *Aquilegia*, and one of *Delphinium*. There were also some mosses and lichens that have not yet been determined.

#### FILICES.<sup>2</sup>

1. *DRYOPTERIS FRAGRANS* (L.) Schott.
2. *FILIX FRAGILIS* (L.) Underw.
3. *FILIX MONTANA* (Lam.) Underw.
4. *GYMNOPTERIS TRIANGULARIS* (Kaulf.) Underw.
5. *PHEGopteris pHEGopteris* (L.) Underw.

#### EQUISETACEAE.<sup>2</sup>

6. *EQUISETUM PRATENSE* Ehrh.
7. *EQUISETUM VARIEGATUM* Schleich.

#### LYCOPODIACEAE.<sup>2</sup>

8. *LYCOPodium ALPINUM* L.
9. *LYCOPodium ANNOTINUM* L. The so-called var. *pungens*.
10. *LYCOPodium SELAGO* L.

<sup>2</sup> Determined by L. M. Underwood.

GRAMINEAE.<sup>3</sup>

11. *ALOPECURUS ALPINUS* J. E. Smith.
12. *ARCTOGROSTIS LATIFOLIA* Griseb.
13. *BROMUS PACIFICUS* Shear. A very much reduced form, possibly already published under some older and as yet unidentified name.
14. *ELYMUS MOLLIS* Trin.
15. *POA ALPINA* L.
16. *POA ARCTICA* R. Br.
17. *SAVASTANA ALPINA* (Sw.) Scribn.

CYPERACEAE.<sup>4</sup>

18. *CAREX CAPITATA* L.
19. *CAREX COMPACTA* R. Br.
20. *CAREX LAGOPINA* Wahl.
21. *CAREX MACROCHAETA* C. A. Meyer.
22. *CAREX MISANDRA* R. Br.
23. *CAREX RIGIDA* Good.
24. *CAREX SCIRPOIDES* Mx.
25. *ERIOPHORUM ANGUSTIFOLIUM* Roth.
26. *ERIOPHORUM VAGINATUM* L.

JUNCACEAE.<sup>5</sup>

27. *JUNCOIDES CAMPESTRE SUDETICUM* (Willd.) Coville.
28. *JUNCOIDES PARVIFLORUM* (Ehrh.) Coville.
29. *JUNCOIDES* SP.
30. *JUNCUS CASTANEUS* Smith.
31. *JUNCUS HAENKEI* E. Mey.

## LILIACEAE.

32. *LLOYDIA SEROTINA* Sweet Hort. Brit. ed. II. 527.—*Anthericum serotinum* L. Sp. pl. ed. 2. 444. 1762; *L. alpina* Salisb. Trans. Hort. Soc. 1: 328. 1812.—The small bulb or corm is concealed by the scarious bases of former leaves which also

<sup>3</sup> Determined by F. Lamson-Scribner.

<sup>4</sup> Determined by Theodor Holm.

<sup>5</sup> Determined by F. V. Coville.

sheath the lower part of the present leaves and the flowering stem: leaves filiform, 9–12<sup>cm</sup> long, longer or shorter than the stem; cauline leaves generally 3, clasping at base and dilated, involute: flowers solitary, erect, terminating the stem: perianth with the divisions 3-nerved, oblanceolate, obtuse, incurved at base: stamens half as long as the perianth (5<sup>mm</sup>), with flattened subulate filaments and elliptical basifixed anthers: capsule when ripe shorter than the marcescent perianth, angled; the valves obcordate at apex, cuneate at base, cuneate-obovate in general outline. The flowers are like small erect lilies, dull white, veined with green or purplish lines.

Type range: "in alpinis Angliae, Helvetiae, Taureri rastadiensis, Wallaesiae."

33. *TOFIELDIA PALUSTRIS* Huds. Fl. Angl. ed. II. 1: 175. 1778.—*T. borealis* Wahl. Fl. Lapp. 89. 1812.—Roots fibrous: leaves tufted at base, erect, equitant, linear-acuminate, about 2<sup>cm</sup> long, 1<sup>mm</sup> wide, with three prominent nerves: scape naked or with one leaf near the base, 8–15<sup>cm</sup> high: raceme short, less than 3<sup>cm</sup> long, densely flowered; pedicels short, 1–2<sup>mm</sup>, with three very short papery bracts at base: perianth marcescent, shorter than the ripe capsule, which is elliptical-orbicular, tipped by the short stout divergent styles with capitate stigmas: seeds many, ellipsoidal, appendaged by the funiculus.

34. *ZYGADENUS ELEGANS* Pursh. Fl. Am. Sept. 1: 241. 1813.—*Z. glaucus* Nutt. Journ. Acad. Philad. 7: 56. 1834.—Stem about 3<sup>dm</sup> high from a coated bulb, glaucous and glabrous: leaves mostly basal, grass-like, usually one or two on the stem: flowers racemose, distant on the lower part of the stem, closer near the summit; bracts exceeding the pedicels, 1–2<sup>cm</sup> long, scarious: flower 15–20<sup>mm</sup> in diameter: segments of the perianth whitish, veined with green; inner ones with well-marked claw; outer ones broader, narrowed to the base; gland yellow above the claw, deeply emarginate: filaments shorter than the perianth.

Type locality: "on the waters of Cokahlaishkit river, near the Rocky mountains.—M. Lewis."

## IRIDACEAE.

35. *Iris arctica*, n. sp.—Rhizome stout, oblique, clothed with brown sheaths which are split into fibers: leaves erect, thin, lax, 2–2.5<sup>dm</sup> long, 5–8<sup>mm</sup> broad, acuminate, veiny; young leaves rosy at base: stem almost twice as long as the leaves, simple, with

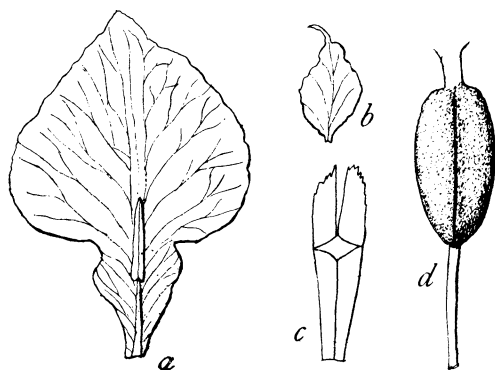


FIG. 2.—*IRIS ARCTICA*, n. sp. *a*, blade; *b*, standard; *c*, style branch; *d*, ovary. All three-fourths nat. size.

one or two leaves, the top leaf rarely reaching the spathe: spathes one-flowered; outer bract leaf-like, acuminate, 3–6<sup>cm</sup> long, shorter than or surpassing the pedicels; the two inner thinner, acute: pedicels scarcely exerted beyond the spathes in flower, 3–5<sup>cm</sup> long in fruit: tube of the perianth cylindraceous, 5<sup>mm</sup> long, 2<sup>mm</sup> in diameter; falls widely spreading, with claw

2.3<sup>cm</sup> long, 1<sup>cm</sup> broad at top, narrowed at base, blade ovate orbicular, violet with a greenish-yellow spot where it joins the claw, 3.5<sup>cm</sup> long, almost 4<sup>cm</sup> broad, veiny; standards inconspicuous, variously shaped, generally ovate with a sort of lobe at top surmounted with a long setaceous appendage, the much broader lower part, corresponding to the claw, white blotched with purple on the lower half: style branches 3<sup>cm</sup> long; crests generally entire and straight on the inner side, laciniate-dentate on the outer, oblong in general outline, veiny; stigma deltoid: stamens with filaments as broad as the anthers and a little longer, the latter 1<sup>cm</sup> long: ovary 3-sided, narrowed at the two ends: immature capsule ellipsoidal.

This is nearest to *Iris setosa* Pallas, from which it differs in having simple stems and one-flowered spathes, and especially in the shape of the divisions of the flower. It resembles this and other allied species in having the standards inconspicuous and very much smaller than the falls. The description of *Iris setosa* has been taken from Baker's *Irideae*, p. 11, also from Ledeb. *Fl. Ross.* 4: 96, the original reference.



SALICACEAE.<sup>6</sup>

36. *SALIX ALAXENSIS* Coville, Proc. Wash. Acad. Sci. **2** : 280 1900; *idem* **3** : 311. *pl.* 34. 1901.—*S. speciosa* Hook. & Arn Bot. Beech. 130. 1832; *S. speciosa alaxensis* Anders. DC. Prod. **16**<sup>2</sup> : 275. 1868.—Stems rather stout, densely white-tomentose or flavescent: leaves obovate to oblong-lanceolate, acute or acuminate, densely tomentose on the lower surface, glabrous or with some woolly hairs on the upper; the largest leaves 5.5<sup>cm</sup> long, 2–5<sup>cm</sup> wide; petioles 5<sup>mm</sup> long, shorter than the linear-lanceolate stipules; these 5–10<sup>mm</sup> long, white-woolly: female catkins 6<sup>cm</sup> long, the bracts black, clothed with long white woolly hairs: style long; stigma with linear two-parted lobes: capsules ovate-acuminate, sessile, clothed with silky hairs.

Type locality: "Alaxa Americae occidentali-borealis." On the banks of Nome river.

37. *SALIX CHAMISSONIS* Anders. DC. Prod. **16**<sup>2</sup> : 290. 1868.—Stems shining, chestnut-brown: leaves (in bud) glandular-serrate, green on the upper surface, glaucescent and somewhat lanate on the lower; petioles short, about as long as the gland-toothed stipules: catkins with leafy peduncles, densely flowered, 3–5<sup>cm</sup> long; scales black, clothed with long white silky hairs that almost equal the capillary filaments but are shorter than the styles: capsules clothed with sparse short white pubescence, tapering at apex to the long black style; divisions of the stigma short with the lobes as long.

Type locality: "in sinu *S. Laurentii*."

38. *SALIX GLAUCA* L. Sp. Pl. 1019. 1753.—Old stems chestnut-brown, young ones white-tomentose: leaves elliptical, subovate, acute, tapering to a short petiole which is 5<sup>mm</sup> long, generally surpassed by the white-woolly stipules, upper surface green, lower glaucous, clothed with fine silky hairs which are more abundant on the lower surface than the upper; longest leaf 4<sup>cm</sup> long, 12<sup>mm</sup> broad: catkins small, subtended by the leaves, 1.5<sup>cm</sup> long; scales arranged in whorls 1<sup>mm</sup> apart, orbicular,

<sup>6</sup> Determined by F. V. Coville.

brown or black, white hairy: stamens 2 from each scale, with filaments 5<sup>mm</sup> long.

Type locality: "in Alpibus Lapponicis and Pyrenaicis."

39. *SALIX PHLEBOPHYLLA* Anders. Oefv. Kongl. Vet. Akad. Foerh. 15: 131. 1858.—About 2<sup>cm</sup> high, from branched woody prostrate stems: leaves crowded on short petioles, ovate-orbicular, glossy, veiny, green on both sides but with some long loose woolly hairs on the lower surface, 1<sup>cm</sup> long, 7<sup>mm</sup> wide, with obtuse apex and revolute margin; old leaves persisting and becoming skeletonized: catkins (female only) about 1<sup>cm</sup> long, surrounded by leaves at base; scales black, orbicular, clothed with long white wool: styles purplish, about equaling the woolly hairs of the scales; stigma with each division two-lobed.

40. *SALIX PULCHRA* Cham. Linnaea 6: 543. 1831.—Stems dark brown, glossy: leaves (immature) glabrous or slightly villous, sparingly glandular-serrate; stipules linear-lanceolate, green on the upper surface, glaucescent on the lower: peduncles short, not leafy, but with one or two black scales at base: catkins oblong-elliptical, 2<sup>cm</sup> long; scales black-lanate but not densely so; female catkin with long yellow styles and stigmas twice-lobed: capsules ovate-acuminate, slightly hispid.

Type locality: "in Promontorio Espenbergii Americae transbeeringiensis, inque insula Sti. Laurentii."

41. *SALIX RETICULATA* L. Sp. Pl. 1018. 1753.—Stems 5–10<sup>cm</sup> high, brown, prostrate, woody: leaves elliptical, ovate or orbicular, generally obtuse, green and glabrous on the upper surface, glaucous and villous on the lower, beautifully reticulate-veiny on both sides, 1–3.5<sup>cm</sup> long, 1–2.5<sup>cm</sup> wide, petioles half to two-thirds as long as the blade, reddish: peduncles longer than or equaling the catkins, which are slender, 1.5–3<sup>cm</sup> long: male catkins with bracts subverticillate, reddish, pubescent and densely ciliate with short white hairs; filaments two to each bract, 2<sup>mm</sup> long: female catkins more closely flowered, and the bracts almost glabrous: capsules sessile, tomentose, ovate-acuminate, 4<sup>mm</sup> long; styles less than 1<sup>mm</sup> long; stigma with the two short divisions each two-cleft.

Type range: "in Alpibus Lapponiae, Helvetiae." Collected on Mt. King.

42. *SALIX* sp.—Stems glabrous or slightly pubescent: leaves elliptical, acute or obtuse at apex, bright green on the upper side, glaucous on the lower, with margin entire or sparingly glandular-toothed; largest leaf 6.5<sup>cm</sup> long, 3<sup>cm</sup> broad; petioles 1–3<sup>mm</sup> long; stipules only on the younger leaves, ovate, glandular-toothed, about as long as the petioles: catkins 2<sup>cm</sup> long, loosely flowered, on short leafy peduncles; bracts oblong, brown with silky wool at apex: capsules on short pedicels, ovate-lanceolate, acuminate, 4<sup>mm</sup> long; styles short; stigmas capitate at first, later two-lobed.

This is an undetermined species which Mr. Colville writes has been collected also at other places.

#### BETULACEAE.

43. *BETULA NANA* L. Sp. Pl. ed. 2. 1394. 1763; Fl. Lapp. 274. *pl. 6. fig. 4.*—Low shrub with brown bark, white dotted: leaves small, orbicular, 5–10<sup>mm</sup> wide, irregularly dentate, with petioles 2<sup>mm</sup> long.

Type range: "in Alpibus Lapponicis, paludibus Sueciae, Russiae."

The specimen is without flowers or fruit. The catkins are described as small.

#### POLYGONACEAE.

44. *OXYRIA DIGYNA* Hill Hort. Kew. 158. 1765 (ex Index Kewensis).—Stems erect, 2–2.5<sup>dm</sup> high, with branched inflorescence: radical leaves orbicular-reniform, glabrous, on long petioles: flowers on slender pedicels, several from each scaly bract, drooping; sepals four, two appressed to the fruit, the other two-spreading, carinate on the back: fruit orbicular, red-winged: stigmas two, tufted at the deeply emarginate apex.

45. *POLYGONUM BISTORTOIDES* Pursh. Fl. Am. Sept. 271 1814.—Stems erect, 2<sup>dm</sup> high, from thick rootstocks: radical leaves oblong, 3–5<sup>cm</sup> long, smooth and deep green on the upper surface, pale green on the lower, margin crisped-undulate and disposed to be revolute; sheaths not jointed to the petiole, oblique at top, surpassing the petiole of the cauline leaves: flowers white, turning pink, on slender pedicels, in a dense racemose spike, 3<sup>cm</sup> long, 2<sup>cm</sup> wide: stamens with white filaments and violet

anthers, exerted together with the style, twice as long as the perianth: bracts brown, scarious.

Type locality: "in low grounds on the banks of the Missouri, called Quamash-flats. M. Lewis." Too young for fruit.

46. *POLYGONUM VIVIPARUM* L. Sp. Pl. 360. 1753.—Stems erect from a bulb-like rootstock: radical leaves oblong to lanceolate, or sometimes ovate-cordate, dark green and glabrous above, glaucous and sparsely pubescent below, tapering at both ends, 3–4<sup>cm</sup> long, 3–6<sup>mm</sup> wide; petioles about as long as the blades; stem leaves strongly revolute, with the brown sheaths longer than the petioles: spicate raceme linear-oblong, 4–5<sup>cm</sup> long, including the bulb bearing lower half: stamens almost twice as long as the perianth, with filaments longer than the styles, and anthers dark purple.

Type range: "in Europae subalpinis pascuis duris."

47. *RUMEX ACETOSA* L. Sp. Pl. 337. 1753.—Dioecious: stem erect, ribbed, 4–5<sup>dm</sup> high, glabrous throughout: leaves few, ovate, auriculate or sagittate at base, acute or obtuse at apex, 2–3<sup>cm</sup> long; sheaths about as long as the broad petioles on the cauline leaves, much shorter on the radical: flowers paniced; pedicels jointed in the middle; perianth divisions reflexed; fruiting bracts ovate, veiny, reddish, without grains on the back, but with a scale at base: seeds wing-angled.

Type range: "in Europae pascuis."

48. *RUMEX* sp.—Stems 2–3<sup>dm</sup> high, rather stout, glabrous, red or green, striate, from a thick root: radical leaves narrowly oblong on broad petioles, usually cordate at base, obtuse at apex: cauline leaves one or two, with sheaths as long as the petioles, often with crisped margins: panicle thyriform or virgate; flowers drooping on slender pedicels, hermaphrodite: stamens exerted: valves of the immature fruit oblong, without grains or scales.

Too immature for determination, but it seems to be near *R. occidentalis nanus* Trelease, Rep. Mo. Bot. Gard. 3: 82. 1892.

## PORTULACACEAE.

49. *CLAYTONIA TUBEROSA* Pall. ex Willd. in Roem. & Schult. Syst. 5: 436. 1819.—Stems slender with two lanceolate leaves, opposite or alternate, 1–2<sup>cm</sup> below the inflorescence: these leaves about 2<sup>cm</sup> long, narrowed at base, sessile, obtuse at apex, glabrous: flowers umbellately paniced, with pedicels recurved in fruit, 1–2<sup>cm</sup> long; bracts red, sheathing or wanting on all except the lowest: calyx of two broad, ovate, accrescent sepals: petals white, 1<sup>cm</sup> long, more than twice as long as the sepals, 6<sup>cm</sup> broad, truncate or slightly emarginate at apex: filaments dilated at base, half as long as the petals; anthers pink, narrowly oblong: seeds not ripe.

The specimens at hand are without radical leaves or roots, but seem to agree with this species as described in Gray's *Syn. Fl.* 1: 272.

50. *MONTIA SARMENTOSA* Robinson, *Syn. Fl. N. Am.* 1: 272. 1897.—*Claytonia sarmentosa* C. A. Meyer, *Mém. Soc. Nat. Mosc.* 7: 137. *pl.* 3. 1829.—Stems glabrous, from slender running roots, producing runners: radical leaves on long margined petioles, obovate or ovate; cauline leaves ovate, sessile, clasping: flowers racemose with recurved pedicels, without bracts: sepals broadly ovate, slightly surpassed by the capsule: petals pink or white, 1<sup>cm</sup> long, 5<sup>mm</sup> wide, thrice as long as the sepals, with a distinct claw and obcordate blade: seeds two or three, shining, black, granulate mucronulate.

## CARYOPHYLLACEAE.

51. *ARENARIA ARCTICA* Stev. DC. *Prod.* 1: 404. 1824; Cham. & Schl. *Linnaea* 1: 54. 1826; Hook. *Fl. Bor.-Am.* *pl.* 34 B.—Stems tufted-cespitose, glandular: lowest leaves closely imbricated in bunches, glabrous, linear, obtuse, apparently fleshy, somewhat falcate, 5<sup>mm</sup> long, the margin without cilia: stems 2–3<sup>cm</sup> high, with a pair of ovate obtuse membranously-margined slightly ciliate connate-clasping leaves about 1<sup>cm</sup> distant from the flower: calyx green or purplish, with the divisions ovate, 4<sup>mm</sup> long, obscurely nerved, the margins membranous, purplish or white, the apex somewhat incurved but not cucullate: petals

broadly obovate, a little more than 7<sup>mm</sup> long, 5<sup>mm</sup> broad, tapering to a short yellow claw: filaments flat, slightly surpassing the sepals, abruptly dilated at the very base and thickened: ovary ovoid, obtuse, 2–5<sup>mm</sup> long, a little longer than the styles.

Type range: "in littore Sibirico maris glacialis."

52. *ARENARIA LATERIFLORA* L. Sp. Pl. 423. 1753.—Stems slender, weak, 4<sup>cm</sup> high: leaves elliptic-oblong to oval, 5–10<sup>mm</sup> long, finely ciliate on the margin, papillose-roughened on the surface: flowers on slender peduncles, surpassing the leaves: sepals suborbicular, 1<sup>mm</sup> long, one-nerved, with white membranous margins: petals white, twice as long as the sepals: capsule globular.

Type range: "in Siberia." Only one specimen obtained, and it was one-flowered.

53. *ARENARIA MACROCARPA* Pursh. Fl. Am. Sept. 1: 318. 1813; Cham. & Schl. Linnaea 1: 54. 1826; Hook. Fl. Bor.-Am. *pl.* 34 *A.*—Stems matted-cespitose, densely clothed with imbricated leaves, all except the terminal tuft dry and bleached: leaves linear, obtuse, denticulate, falcate, 6<sup>mm</sup> long: flowering stems 2–3<sup>cm</sup> high, glandular, slender, with one or two pairs of leaves, one-flowered with the peduncle half as long as the stem: stem-leaves shorter and broader than the basal leaves, connate-clasping, glandular: sepals obscurely 3-nerved, linear, 7<sup>mm</sup> long, membranously purple- or white-margined, incurved at apex but scarcely cucullate: petals white, oval-obovate, more than 3<sup>cm</sup> long, 5<sup>mm</sup> broad: stamens with flat filaments widening gradually to the base where they become fleshy and suddenly dilated, surpassing the sepals: ovary ovoid, obtuse, 6<sup>mm</sup> long, scabrous along the edges of the valves.

Type range: "on the northwest coast of America.—Nelson." The ripe capsule is not present on any of the specimens.

54. *ARENARIA PHYSODES* Fisch. DC. Prod. 1: 413. 1824.—*Merckia physodes* Fisch. Linnaea 1: 59. 1826.—Stems branching from weak decumbent basal stems, rooting at the joints and somewhat clothed with persistent dead leaves, growing to a height of about 5<sup>cm</sup>, glandular-hirsute and ribbed: leaves broadly

ovate to suborbicular, 5–10<sup>mm</sup> long, cuspidate; petioles very short and broad, a little shorter than the internodes, margins ciliate: flowers at first solitary, later with a second flower from the axil of the top pair of leaves; peduncles 1<sup>cm</sup> long, glandular like the stem: sepals ovate to oval, acute or obtuse, 5<sup>mm</sup> long, 3<sup>mm</sup> wide, the margin purple, sparingly glandular-hairy: petals with short yellow claws and broad white ovate-orbicular blades, together a little longer than the sepals: capsule depressed-globose, inflated, surpassing the calyx and corolla when ripe, 6–7<sup>mm</sup> in diameter: styles three, persistent.

Type locality: "in Kamschatka."

55. *ARENARIA ROSSII* Richardson. R. Br. in Parry 1st Voy. App. 272. 1823.—Matted cespitose: lowest leaves imbricated, the upper pairs more distant, glabrous, linear, three-sided, somewhat fleshy, 4<sup>mm</sup> long: peduncles capillary, erect-spreading or slightly curved at tip, 2–4<sup>mm</sup> long: sepals ovate, acute, about 2<sup>mm</sup> long, gibbous, with the apex involute, membranously margined with white or purple: petals linear to oblanceolate, 2.5<sup>mm</sup> long, truncate or obtuse at apex: stamens 10, with the alternate filaments about equaling the sepals: filaments from a yellow, fleshy, shield-shaped, five-lobed disk at base of ovary: anthers orbicular, retuse at each end: capsule sessile, conical, five-angled, purplish, tipped by the three styles.

Type locality: "Melville island." In *Index Kewensis* this is made a synonym of *A. stricta* Michx.

56. *CERASTIUM ALPINUM FISCHERIANUM* Torr. & Gray Fl. 1:188. 1838.—*C. Fischerianum* Seringe, DC. Prod. 1:419. 1824.—Stems 1.5–2<sup>dm</sup> high, villous pubescent below, glandular above: leaves lanceolate-acuminate, 10–15<sup>mm</sup> long, 2–4<sup>mm</sup> wide: flowers cymosely paniced: peduncles 1–2<sup>cm</sup> long: petals twice as long as the sepals, 1<sup>cm</sup>: pod exserted from the calyx 5–6<sup>mm</sup>.

Type locality: "in Kamschatka."

57. *CERASTIUM VULGATUM* L. Spec. Pl. ed. 2. 627. 1762.—Lower part of stem pilose, upper viscid-pubescent: leaves in pairs, distant, oblong, 10–15<sup>mm</sup> long, pilose: flowers capitate-cymose, the upper pair of leaves subtending the inflorescence

like an involucre; oldest flower with the pedicel curving downwards, longer than the calyx: sepals nerved, pilose, white-margined, lanceolate, 6<sup>mm</sup> long, apex obtuse or emarginate: petals white, as long as the sepals: capsule a little longer than the calyx, the valves revolute after opening.

Type range: "in Scaniae aut Europae australioris pratis."

58. *LYCHNIS APETALA* L. Sp. Pl. 437. 1753.—Stems 12–15<sup>cm</sup> high, glandular-villous: radical leaves obovate to lanceolate, 15<sup>mm</sup> long; cauline leaves two pairs: flowers pendulous at first, later erect: calyx inflated, glandular, having ten purplish nerves: petals exserted about 2<sup>mm</sup>.

This is perhaps var. *elatior* Regel. Bull. Soc. Nat. Mosc. 34: 573, of which the type locality is given as Kodiak island and northward in Alaska to Kotzebue sound (ex Gray's *Syn. Fl. N. Am.* 1: 226).

59. *SILENE ACAULIS* L. Sp. Pl. ed. 2. 603. 1762.—Cespitose, often covering broad areas: leaves linear, one-nerved, glabrous, ciliate on the margins, 5<sup>mm</sup> long: flowers on peduncles about their own length: calyx purplish with deltoid divisions, ciliate on the margins: petals rose-color, with spreading blades and exserted claws: stamens exserted.

Type range: "in Alpinis Lapponicis, Austriacis, Helveticis, Pyrenaecis." This is commonly regarded as a flowering moss as it covers the ground like moss.

60. *STELLARIA LONGIPES* Goldie, Edinb. Phil. Jour. 6: 327. 1822.—Stems erect, with erect branches, glaucous or often shining, glabrous: leaves lanceolate-acuminate to ovate, one-nerved, about 5–10<sup>mm</sup> long, with longer internodes: flowers cymose, the lateral ones with a pair of membranous bracts below the middle; peduncles long, almost 3<sup>cm</sup>: sepals ovate, keeled, 2<sup>mm</sup> long, with the margins white-membranous, ciliate: petals white, surpassing the sepals: capsule glossy, surpassing the calyx by about 1<sup>mm</sup>, brownish (perhaps not ripe).

Type locality: "woods near Lake Ontario."

#### RANUNCULACEAE.

61. *ACONITUM DELPHINIFOLIUM* DC. Syst. 1: 380; Reichenb. Monogr. Gen. Aconiti 79. *pl.* 9. 9.—Stems erect, 4–5<sup>dm</sup> high,



slender with few leaves, simple or with few erect branches, retrorsely pubescent: leaves about 5<sup>cm</sup> across, 3-5-parted or divided with the divisions laciniately cleft into linear acute lobes, 2-3<sup>mm</sup> broad, glabrous, paler on the lower surface; petioles long and slender, glabrous, slightly dilated only at the base: flowers few on long pedicels, lowest pedicel 5<sup>cm</sup> long from a leaf-like bract; the upper bracts with one or two divisions; bracts and pedicels pubescent: hood not much surpassing the other sepals; lower sepals half as broad as the lateral and of the same length: follicles erect, spreading at apex, marked with dark reticulation, sparsely pubescent.

Type locality of Reichenbach: "in Kamtschatka" (ex Ledeb. *Fl. Ross.* 1:70). Depauperate one-flowered specimens are not uncommon. Common everywhere, especially under the willow trees.

62. *ANEMONE NARCISSIFLORA uniflora* Eastwood, n. var.—Stems 1-2<sup>dm</sup> high, glabrous or villous: radical leaves pedately 3-divided with the cuneate-flabelliform divisions cleft into 5-7 unequal, oblong or linear, acute lobes; petioles dilated at base, imbricated, two- to three-nerved, 4-6<sup>cm</sup> long; blade 2-4<sup>cm</sup> across, generally villous-ciliate on the margin, paler on the lower side than the upper; involucre leaves similar to the divisions, sessile, more or less densely villous at base and on the lower surface, 1.5<sup>cm</sup> long: flowers solitary in the involucre on a peduncle elongating from 3-5<sup>cm</sup>: sepals rhombic-obovate, 1.5<sup>cm</sup> long, almost 3<sup>cm</sup> broad, though somewhat unequal: stamens numerous: akenes in a globular head, glabrous, with the style much recurved.

This differs so much from the usual form in general appearance as well as in the number of flowers that it seems deserving of varietal rank.

63. *ANEMONE PARVIFLORA* Michx. Fl. 1:320. 1803.—Stems erect from a creeping rootstock, woolly pubescent, 5<sup>cm</sup> to 2.5<sup>dm</sup> high: leaves palmately 3-divided, with the divisions broadly cuneate, three-lobed with uneven rounded lobes, bright green on the upper surface, paler on the lower, the marginal teeth callous-tipped, reniform in general outline, 1-3<sup>cm</sup> across; petioles long and slender, sheathing at base, striate; involucre leaves

more deeply lobed, sessile or on very short broad petioles: flowers terminal, solitary, white or tinged with blue, almost 3<sup>cm</sup> in diameter: sepals obovate, about 3<sup>cm</sup> broad: akenes in an oval head, densely white-woolly, with the capillary styles generally deciduous.

Type locality: "ad amnes in sinum Hudsonis defluentes."

64. *ANEMONE RICHARDSONI* Hook. Fl. Bor.-Am. 1:6. *pl.* 4. 1840.—Stems erect, from slender creeping rootstocks, 1–1.5<sup>dm</sup> high: radical leaves three- to five-lobed, the lobes broadly cuneate, irregularly dentate, reniform in outline; petioles 2–4<sup>cm</sup> long, villous, sheathing only at the very base, veined; cauline leaves three, involucrate, sessile, similar to the radical leaves but not so broad: peduncles lengthening from 2–12<sup>cm</sup>: sepals yellow, ovate, veiny, pilose on the lower side, obtuse: akenes in a short head, pointed with the long slender uncinat styles which are about 5<sup>mm</sup> long.

Type range: "Eastern primitive district, shores of Hudson's bay: barren ground, Rocky mountains, from lat. 55° to 68°, in wet mossy ground. Unalashka and throughout all Siberia."

65. *COPTIS TRIFOLIA* Salisb. Trans. Linn. Soc. 8:305.—*Helleborus trifolius* L. Sp. Pl. 558. 1753.—Rootstock yellow, slender, filiform: leaves all radical, trifoliate; divisions obovate-cuneate, with crenate-dentate margins and mucronate teeth, evergreen, glossy, glabrous: petioles long, slender, almost equaling the scape: scape 1-flowered (in the only specimen): sepals oval, white, tinged with purple, 6<sup>mm</sup> long: petals orange, clavate, 2<sup>mm</sup> long: stamens surpassing the petals: fruit wanting.

Type range: "in Canada, Siberia."

66. *Delphinium Blaisdellii* Eastwood, n. sp.—Root unknown: caudex woody, branching: lowest leaves less dissected than the upper ones, with four or five 3–5-parted divisions, obovate in outline, laciniately cleft into linear lobes which are entire or with a few teeth near the apex; divisions of the upper leaves with 4–7 linear-acuminate divisions diverging pinnately from the broad rhachis and diminishing towards the apex; petioles dilated at base (1<sup>mm</sup> broad), somewhat canescent with silky pubescence, longer

than or equaling the blades : lowest flowers axillary on downy peduncles, which are erect but recurve at apex, about 2<sup>mm</sup> long ; upper ones from slender bracts, forming a rather dense raceme : divisions of the calyx about as long as the spur, elliptical, silky villous exteriorly, dark blue with black spot near the apex ; spur slender, 2.5<sup>cm</sup> long, tapering to an obtuse apex less than 1<sup>mm</sup> wide, straight or curved, slightly erect or horizontal : upper petals white, veined with blue ; lower bearded with yellow hairs : immature capsules densely clothed with white silky wool.

This may have been identified with *D. Menziesii* Lindl. Bot. Reg. *pl.* 1192, as this seems to have been the only species reported from the arctic region. It is very different from the figure in the *Botanical Register*, and quite unlike any specimen identified as that species in the herbarium of the California Academy of Sciences. Without the root and ripe or fully grown fruit, it is not wise to name species of *Delphinium*, but in a list like the present one it is better to name it, if it is described, than to leave it described but unnamed.

67. *RANUNCULUS NIVALIS* L., Sp. Pl. 553. 1753; Fl. Lapp. *pl.* 3. *fig.* 2.—Roots fibrous: caudex often branched, sheathed with membranous bases of old leaves : radical leaves cuneate, 3–5-lobed, on long petioles ; cauline sessile, one or two with deeper and more spreading divisions : flowers yellow, 2<sup>cm</sup> across : calyx of orbicular sepals clothed with brown hairs : petals almost twice as long, orbicular to obovate, obtuse, veiny: head of akenes oblong, on an elongated peduncle ; akenes orbicular, somewhat turgid, tipped by a straight or curved style, glabrous or slightly villous.

Type range: “in Alpibus Lapponiae, Helvetiae.”

68. *RANUNCULUS PYGMAEUS* Wahl. Fl. Lapp. 157. *pl.* 3. *fig.* 3. 1812.—Stems woolly-pubescent, low and slender (3–8<sup>cm</sup> high), from an ascending rootstock : radical leaves pedately 3–5-cleft, with unequal rounded lobes : petioles unequal, much dilated at base, 3-veined, sparsely ciliate: cauline leaf about the middle of the 1-flowered stem, palmately 3-cleft: flowers yellow, 8–9<sup>mm</sup> across: sepals villous, about as long as the orbicular petals : akenes in an oblong head, tipped with a curved style.

Type locality: “alp. Lapponiae” (ex Ledeb. *Fl. Ross.* 1: 36). On the edge of glaciers, Swan gulch.

69. **Ranunculus verticillatus** Eastwood, n. sp.—Stems slender, weak, reclining or ascending, glabrous near the base, sparsely and finely pilose above, simple or dichotomously branched: radical leaves none; cauline leaves divided palmately to the base, the linear entire divisions appearing like 4–6-whorled leaves, varying but little in length, in different leaves from 5–20<sup>mm</sup> long to 3<sup>mm</sup> wide, minutely appressed-ciliate on the margins, and with longer cilia at the base, dotted on the upper surface (under a lens) with the minute pustules of the pubescence: earliest peduncle (if more than one) naked, 3–10<sup>cm</sup> long; later ones, with one or rarely two leaves, having fewer divisions than those of the main stem: flowers solitary, bright yellow: sepals woolly-pubescent, boat-shaped, 6<sup>mm</sup> long, 6<sup>mm</sup> broad (if spread out): petals obovate, narrowed to a short claw, 7<sup>mm</sup> long, 5<sup>mm</sup> broad, the scale at the base shaped like a wishbone, each part 1<sup>mm</sup> long: akenes pubescent, orbicular, turgid, with tortuous styles 1<sup>mm</sup> long, forming a globose head.

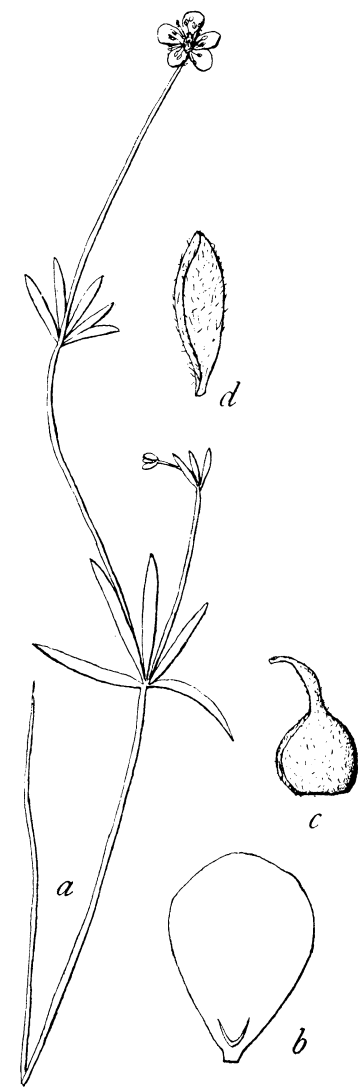


FIG. 3.—**RANUNCULUS VERTICILLATUS**. *a*, plant four-fifths natural size; *b*, petal  $\times 4$ ; *c*, pistil  $\times 4$ ; *d*, sepal  $\times 4$ .

This interesting species seems to come nearest to *R. affinis* R. Br., but is quite dissimilar to any of the forms of that heteromorphic species.

70. **THALICTRUM ALPINUM** L.  
Spec. Plant. 545. 1753.—Stems

scapose from fibrous roots, slender, 1–1.5<sup>dm</sup> high: leaves all radical, trifoliate, with the leaflets pinnately divided, the segments cuneate, 2–3-toothed at apex: flowers perfect, racemose, on capillary pedicels, from small bracts, erect or pendent: anthers narrowly oblong, mucronate, on capillary filaments: akenes few, pointed.

Type range: “in Alpibus Lapponiae, Arvoniae.”

#### PAPAVERACEAE.

71. PAPAVER NUDICAULE L. Sp. Pl. 507. 1753.—Caudex branching underground: leaves all radical, ovate in outline, pinnately divided, with the three upper divisions confluent, the other two or four entire, or once or thrice lobed, the lobes spatulate, sparingly hispid, with revolute margins, obtuse or aristate at apex; petioles about as long as the blades, together 2–4<sup>cm</sup>, dilated at base and imbricated, hispid-ciliate: scapes slender, 1–2<sup>dm</sup> high, more or less hirsute with spreading brown-black hairs: bud elliptical, hirsute with brown-black hairs: flowers bright yellow turning greenish in drying, 2.5–4.5<sup>cm</sup> in diameter; two petals broader than long, the other two almost orbicular, cuneate at base: capsule brown, 4-ribbed, turbinate-oblong, 10–15<sup>mm</sup> long, 2–3<sup>mm</sup> wide at apex, hispid with pustulate hairs: stigma with four glandular-puberulent rays: seeds 1–2<sup>mm</sup> long, chestnut-brown, glossy, with the outer coat wrinkled and marked with quadrangular venation, having a dark brown spot at one end.

Type locality: “in Siberia.” This is a variable species. These specimens agree with none of the described varieties in all particulars.

This species is named *P. radiculatum* Rottb. in U. S. Geol. Surv. Reconnaissances in the Cape Nome and Norton bay regions, Alaska, in 1900, p. 170. In *Index Kewensis* *P. radiculatum* is a synonym of *P. nudicaule* L.

#### FUMARIACEAE.

72. CORYDALIS PAUCIFLORA Pers. Syn. 2:69. 1805; Ledeb. Ic. Fl. Alt. *pl.* 450.—*Fumaria pauciflora* Steph. in Willd. Sp. Pl. 3:861. 1797–1830.—Stem 1.5<sup>cm</sup> high (the only specimen is in fruit and is without the root): leaves on long petioles, of three palmate divisions, these again 3–4-parted with oblong or obovate

mucronate divisions, glabrous, 3<sup>cm</sup> in diameter, orbicular in outline: bracts ovate, somewhat keeled: capsules pendent on erect or spreading slender pedicels, 15<sup>mm</sup> long, equaling the oblong-lanceolate capsules; these tipped with a persistent style 1<sup>mm</sup> long, and a tufted stigma: seeds orbicular, black, in two rows.

Type locality: "in montibus Altaicis Sibiriae." According to the description and the figure in Ledebour the corolla is purple and long-spurred.

#### CRUCIFERAE.

73. *CARDAMINE BELLIDIFOLIA* L. Sp. Pl. 654. 1753.—Caudex branched from a fibrous coated rootstock (the fibers the dry petioles of former leaves): glabrous throughout: stems 4–9<sup>cm</sup> high, slender: radical and lower cauline leaves on long slender petioles, 1–2<sup>cm</sup> long with ovate or orbicular blades 4–6<sup>mm</sup> wide; upper stem leaves sessile or occasionally with short petioles: flowers white, in corymbs lengthening to racemes, on pedicels 3<sup>mm</sup> long, which become somewhat longer in fruit: sepals generally purplish, with white margins, oblong, about 2<sup>mm</sup> long: petals white, cuneate, 4<sup>mm</sup> long, 2<sup>mm</sup> wide, tapering to a claw: style short and stout: pods too young to describe.

Type range: "in Alpihus Lapponiae, Helvetiae, Britanniae."

74. *Cardamine Blaisdellii* Eastwood, n. sp.—Rootstock horizontal, slender: glabrous throughout, with erect stems 1–2<sup>dm</sup> high; radical and lower cauline leaves of three to five 2–3-lobed petiolulate leaflets 5–8<sup>mm</sup> broad, the lobes with callous apex; petioles equaling or longer than the blades, flattened; upper cauline leaves with 3–5 oblanceolate entire petiolulate divisions, 5–8<sup>mm</sup> long, callous-tipped: inflorescence corymbose, lengthening to a raceme 9<sup>cm</sup> long; pedicels flattened, becoming 2<sup>cm</sup> long: sepals broadly oblong, yellow, margined with white, obscurely 3-nerved, 3.5<sup>mm</sup> long, 2<sup>mm</sup> wide, slightly bullate: petals white, broadly spatulate, tapering gradually from the rounded upper part to the base of the claw: immature pods very slender, 2<sup>cm</sup> long, narrowed at each end, but expanding under the clavate stigma.

This seems to be intermediate between *C. pratensis* L. and *C. purpurea* Ch. & Schl., but is distinctly different from either. The cauline leaves are sometimes simple and solitary.

75. *CARDAMINE PRATENSIS* L. Sp. Pl. 656. 1753.—Rootstock obliquely ascending: stems glabrous, 1.5–2<sup>dm</sup> high: radical leaves of 5–7 orbicular petiolulate leaflets, each 5–10<sup>mm</sup> broad, the upper one largest; petioles long and slender, about 2–3<sup>cm</sup>; cauline leaves of 11–13 linear-oblong divisions 2–5<sup>mm</sup> long, 0.5–1<sup>mm</sup> broad, the whole leaf 4<sup>cm</sup> long: flowers at first corymbose, lengthening to a raceme; pedicels 7–10<sup>mm</sup> long: sepals yellow, white-margined, 4<sup>mm</sup> long, two slightly saccate at base: petals white turning rose-color, obovate, obtuse or obcordate, unguiculate, 10<sup>mm</sup> long, 4–5<sup>mm</sup> broad: pods erect, slender, purplish and green, 3<sup>cm</sup> long, less than 1<sup>mm</sup> wide; style short.

Type range: "in Europae pascuis aquosis."

76. *CARDAMINE PURPUREA* Ch. & Schl. *Linnaea* 1:20. 1826.—Rootstocks slender, creeping: stems hispid, erect, about 7<sup>cm</sup> high: leaves few, cauline one or two; radical and lower cauline leaves similar, of three orbicular leaflets, the upper one petiolulate, with three callous teeth or lobes, broadly ovate or orbicular, 8<sup>mm</sup> wide, glabrous, with margins ciliate; the lateral leaflets smaller, sessile, 3<sup>mm</sup> wide; petioles 1–3<sup>cm</sup> long: inflorescence usually subtended by an entire or lobed leaf, corymbose: sepals yellowish, keeled, half as long as the petals, glabrous, the two outer spurred at base: petals purplish, oblong, tapering to a rather broad claw, together 6<sup>mm</sup> long: pods glabrous, 17<sup>mm</sup> long, on pedicels 5<sup>mm</sup> long, beaked with a stout style 1–2<sup>mm</sup> long.

Type locality: "in insula St. Laurentii."

77. *COCHLEARIA OFFICINALIS* L. Sp. Pl. ed. 2, 903. 1762.—Stems low, several from a tap root, branching above with one or two divaricate branches: radical leaves broadly ovate to orbicular, entire or obscurely lobed, truncate, cuneate or cordate at base, 5–10<sup>mm</sup> broad, on petioles 1.5–3.5<sup>cm</sup> long; upper cauline leaves sessile with auricled base, ovate-oblong, entire or with a few blunt teeth: flowers crowded at the ends of the branches: sepals yellowish, white-margined, spoon-shaped, about half as long as the petals: petals elliptical obovate, white, 6<sup>mm</sup> long with the claw distinct: stamens with subulate filaments shorter

than the ovary and orbicular anthers: ovary orbicular, tipped with a short style and capitate stigma.

Type range: "in Europae borealis littoribus marinis."

78. *DRABA ALPINA* L. Sp. Pl. 642. 1753.—Cespitose with branched caudex clothed with the bases of old leaves: leaves all radical, oblanceolate, acute, with prominent midnerve, ciliate on the margin with simple or branched hairs, about 1<sup>cm</sup> long and 2<sup>mm</sup> wide: scapes 2.5<sup>cm</sup> high, pubescent with spreading hairs, slender: flowers two or three in a capitate cluster: sepals oblong-elliptical, greenish, yellow-margined, 2<sup>mm</sup> long, slightly hairy near the top: petals yellow, twice as long, obcordate, unguiculate: pods not present as the specimens are too young.

Type range: "in Alpihus Europae."

79. *DRABA HIRTA* L. Syst. ed. 10. 1127. 1758.—Stems several from a branched caudex, canescently stellate-pubescent throughout, about 8<sup>cm</sup> high, one or two-leaved near the base: radical leaves oblanceolate, about 15<sup>mm</sup> long, sessile, imbricated at base, callous-tipped, rarely with one or two teeth; cauline leaves broadly ovate, clasping: flowers white, corymbose, on pedicels 2–4<sup>mm</sup> long: sepals green, white-margined, oblong, acute, 2<sup>mm</sup> long: petals white, oblong, unguiculate, 5<sup>mm</sup> long: pods not present.

80. *DRABA HIRTA* **tenella** Eastwood, n. var.—Stems several from a branched caudex, stellate-pubescent, one-leaved, slender, 6–15<sup>cm</sup> high: radical leaves oblanceolate, tapering to broad margined petioles, 2–5<sup>mm</sup> wide, about 15<sup>mm</sup> long, acute, ciliate with forked hairs; cauline leaf sessile often with one or two blunt teeth: flowers corymbose, pedicellate: sepals oblong-elliptical, white-margined, 2<sup>mm</sup> long: petals as long again, emarginate at apex, oblanceolate-spatulate, tapering to a claw of half the length: pods on pedicels of about equal length, 7<sup>mm</sup>, linear-oblong and tapering at each end or lanceolate, glabrous, tipped with a short style and slightly emarginate stigma.

In fruit the raceme often becomes elongated.

81. *PARRYA MACROCARPA* R. Br. in Parry's 1st Voy. Suppl. to App. 270. 1823.—Caudex branched, covered with white



bleached persistent dilated leaf bases: leaves all radical, narrowly oblong to lanceolate, glabrous, deeply or but slightly dentate, with callous-tipped teeth, tapering to a petiole, together 1.5–5<sup>cm</sup> long: scape glabrous: flowers corymbose; peduncles and pedicels glandular-hispid, the latter 3–4<sup>cm</sup> long: sepals purplish, linear-oblong, two spurred at base, the other two hooded at apex: petals white or purplish, obcordate at apex, obovate, tapering to a long claw, together 12<sup>mm</sup> long: pods 1–5-seeded, veiny, rough-hispid, constricted between the seeds: style 2<sup>mm</sup> long; stigma 2-cleft: seeds winged, orbicular, 3<sup>mm</sup> broad.

Type locality: "Melville island."

#### CRASSULACEAE.

82. *SEDUM RHODIOLA* DC. Fl. Fr. ed. 3, 4: 386. *pl.* 143.—*Rhodiola rosea* L. Sp. Pl. 1035. 1753; *Sedum roseum* Scop. Fl. Carn. ed. 2. 1: 326. 1772.—Stems erect from a fleshy creeping rootstock, erect, 1–2<sup>dm</sup> high, leafy, glabrous: leaves fleshy, oblong, serrate: flowers capitate-glomerate, deep reddish-purple, terminating the stem.

Type range: "in Alpibus Lapponiae, Austriae, Helvetiae, Britanniae."

(To be continued.)